

WHAT IS CLAIMED IS:

1. A pilot nozzle for a gas turbine combustor comprising:
a fuel oil supply pipe passed through a cylinder unit
provided in an axial direction of the pilot nozzle;
5 a heat-shielding air layer formed between the fuel
oil supply pipe and the cylinder unit; and
a plurality of atomized-fluid supply paths provided
in a circumferential direction of the cylinder unit.
- 10 2. The pilot nozzle according to claim 1, wherein the
fuel oil supply pipe has a portion at a predetermined distance
from the front end fixed to the cylinder unit, and has a
rear end portion for supplying the fuel therefrom held by
a structure so as not to be restricted to an axial direction.
- 15 3. The pilot nozzle according to claim 2, wherein the
distributing section is a cylindrical structure disposed
inside the cylindrical space and having a hollow inside the
structure, has a hole A provided at a center portion of the
20 end surface at one end, and has a hole B communicated to
the inside of the cylindrical structure and a flow path C
communicated to the outside of the cylindrical structure,
formed respectively at the outside of the end surface in
a radial direction of the hole A, with the fuel oil supply
25 pipe having substantially the same diameter as the hole A

passed through the hole A, the atomized-fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

5 4. A pilot nozzle for a gas turbine combustor comprising:
a fuel oil supply pipe passed through a cylinder unit provided in an axial direction of the pilot nozzle;

a heat-shielding air layer formed between the fuel oil supply pipe and the cylinder unit; and

10 a plurality of atomized-fluid supply paths and fuel gas supply paths provided in a circumferential direction of the cylinder unit.

5. The pilot nozzle according to claim 4, wherein the
15 fuel gas supply paths and the atomized-fluid supply paths are disposed alternately and uniformly in the circumferential direction respectively, a portion near a front end portion of the pilot nozzle has a structure having cylinders concentrically superimposed in multiple layers,
20 and a distributing section is provided for connecting the fuel gas supply paths and the atomized-fluid supply paths to paths between separate cylinders respectively.

6. The pilot nozzle according to claim 4 , wherein the fuel oil supply pipe has a portion at a predetermined distance from the front end fixed to the cylinder unit, and has a rear end portion for supplying the fuel therefrom held by
5 a structure so as not to be restricted to an axial direction.

7. The pilot nozzle according to claim 5, wherein the distributing section is a cylindrical structure disposed inside the cylindrical space and having a hollow inside the
10 structure, has a hole A provided at a center portion of the end surface at one end, and has a hole B communicated to the inside of the cylindrical structure and a flow path C communicated to the outside of the cylindrical structure, formed respectively at the outside of the end surface in
15 a radial direction of the hole A, with the fuel oil supply pipe having substantially the same diameter as the hole A passed through the hole A, the atomized-fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

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8. The pilot nozzle according to claim 6, wherein the distributing section is a cylindrical structure disposed inside the cylindrical space and having a hollow inside the structure, has a hole A provided at a center portion of the
25 end surface at one end, and has a hole B communicated to

the inside of the cylindrical structure and a flow path C communicated to the outside of the cylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with the fuel oil supply pipe having substantially the same diameter as the hole A passed through the hole A, the atomized-fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

10 9. A supply path converter that is a cylindrical structure disposed inside the cylindrical space and having a hollow inside the structure, has a hole A provided at a center portion of the end surface at one end, and has a hole B communicated to the inside of the cylindrical structure and a flow path
15 C communicated to the outside of the cylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with a pipe having substantially the same diameter as the hole A passed through the hole A, and the hole B and the flow path C connected
20 with supply paths disposed in a circumferential direction of the same end surface respectively.